# **Kewaunee County**

## 2010

## Land Records Modernization Plan

Revised December 31, 2010

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## KEWAUNEE COUNTY 2010 LAND RECORDS MODERNIZATION PLAN

## I. EXECUTIVE SUMMARY

## A. IDENTIFICATION AND CONTACT INFORMATION

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## **B. PLAN PARTICIPANTS (Land Information Council)**

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#### C. EXECUTIVE SUMMARY OF PLAN

There are only a couple of areas where we still need to establish a component of our original plan.

For the next 5 years our Land Records Modernization Plan will focus primarily on the maintenance and enhancement of the system that we currently have in place by doing the following:

- Maintain our PLSS corners (remonumentation of primary corners was completed in 2008)
- Maintain our digital parcel mapping geodatabases (we now do this in-house)
- Maintain our digital road layers that we digitized from our 2005 orthophoto
- Maintain our schedule of acquiring new color digital orthophotos at least once every 5 years
- Maintain our sanitary permit mapping system in the county zoning office and also our inventory of installed systems
- Maintain our accident mapping system in the county sheriff's department
- Maintain our road sign inventory system in the county highway department
- Maintain our tie sheet/control survey summary diagram web-site
- Maintain our plat of survey web-site
- Maintain our road right of way plat web-site
- Continue to scan, index, store, and make available on-line digital copies of register of deeds documents using CherryLAN software
- Enhance our parcel mapping web-site to include real-time updates that will link to our property tax data web portal which is already updated in real-time
- Enhance land records in the Register of Deeds Office by fulfilling periodic funding requests to support new and existing projects
- Create an in-house GIS application for the county highway department's road sign inventory
- Create an address point layer
- Improve the query capability of our e911 mapping system
- Create new political boundary layers after 2010 census is completed
- Remonument our only remaining PLSS corners the Lake Michigan meander corners
- Obtain funding for a LIDAR flight and create a 2 foot contour layer and new FEMA floodplain maps that can be added to our web-site
- Work with local units of government to incorporate their zoning data in our GIS and ultimately create a web-site displaying this data

## D. Kewaunee County Land Information Office URL

www.kewauneeco.org/lioweb

#### II. LAND INFORMATION PLAN

### A. Goals and Objectives

The following are the goals and objectives for the Kewaunee County land records modernization program. The technology environment that will be utilized to meet these goals and objectives is described under E. 13. in this plan.

The County Land Records Council meets as needed to determine the priorities for each objective, resource requirements to achieve objectives and to establish task lists to accomplish objective. In some cases additional information about priorities, resources, or task may be listed with the objective.

- Goal 1. Update our GIS parcel mapping web-site to simplify it, and also to have it link to our property tax records web-site which is now updated in real-time. This will require our parcel mapping to be available on-line in real-time also. (by EOY 2010)
- Goal 2. Create a GIS address point layer from the official address mapping that is maintained in our county zoning office. (by EOY 2010)
- Goal 3. Obtain new digital orthophotography of the entire County at least every five years. Images will be prepared at a pixel resolution of one foot or better. We have already signed on to do an April 2010 orthophoto flight through the Wisconsin Regional Orthophoto Consortium. (by EOY 2010)
- Goal 4. Remonument the Lake Michigan meander corners when sufficient funding is available. (by EOY 2015)
- Goal 5. Create an in-house GIS application for the county highway department's road sign inventory. (by EOY 2014)
- Goal 6. Create new political boundary layers after 2010 census is completed. (by July 2011)
- Goal 7. Work with local units of government to develop an interactive web-site for maintaining their zoning data. (by EOY 2015)
- Goal 8. Do a LIDAR flight and create a 2 foot contour layer along with new FEMA floodplain maps that can be added to our web-site as soon as funding becomes available. (by EOY 2014)
- Goal 9. Improve the query capability of our e911 mapping system. (by EOY 2011)

## B. Progress Report on Ongoing Activities

- The County has completed all of the remonumentation and resurvey of the U.S. Public Land Survey System within its boundaries except for the Lake Michigan meander corners. Wisconsin State Plane Central Coordinates have been acquired using GPS equipment for all section corners that were remonumented. Additionally, bearings and distances have been computed and labeled along the one-quarter section and section lines between the existing monumented corners that have established geographic coordinates.
- 2. County-wide parcel mapping was completed several years ago by the contracted firm of Ruekert & Mielke, Inc. using coordinate geometry techniques through the interpretation of the legal descriptions contained in the tax listing database, subdivision plats, or certified survey maps. The digital parcel maps were originally compiled in an AutoCAD drawing (DWG) format. In 2008 R/M converted these AutoCAD drawing files into two ESRI geodatabases for us a cadastral geodatabase and an annotation geodatabase. Maintenance of the digital parcel maps in these geodatabases is now done in-house by the Land Information Office. Attributes for linking to our parcel layer are generated by our tax listing database program GCS Software Inc. A Microsoft Access database containing these attributes along with our cadastral and annotation geodatabases are sent to Ruekert & Mielke, Inc. on an annual basis for incorporation into our ArcIMS application which they host for us.
- 3. The County completed a 1 foot resolution 2005 color orthophoto flight as well as a 1 foot resolution 2009 Pictometry oblique imagery flight since our last plan update.
- 4. Since our County Land Records web-site was opened to the public in March 2005 there has been a noticeable decrease in the amount of staff time required for customer assistance both in the office and over the phone. Our site offers free public access to the parcel mapping and property tax information, and contracted access to the register of deeds index and images of recorded documents by subscription or escrow accounts.
- 5. Kewaunee County's 911 dispatch center has incorporated Positron software which utilizes all of our current, available GIS data in either shapefile or MrSID format. The Land Information Office will continue to support the dispatch center by providing any GIS data that is requested.
- 6. GIS data was provided to both Omnni Inc. and the BayLake RPC to facilitate completion of the county's comprehensive planning initiatives (Smart Growth Planning).
- 7. GIS data and mapping was provided to Lenora Borchardt, EPTEC, to support Emergency Government pre-mitigation planning.
- 8. A sanitary permit/drain field mapping system was developed for use in our county zoning office. A separate system was developed for tracking sanitary system inspections.
- A road centerline layer was digitized from our 2005 orthophoto flight using ArcGIS software. Road name attributes were assigned by the land information office and address range attributes were assigned by the sheriff's department.

- 10. A road sign inventory system was developed that utilizes GPS technology, Microsoft Access, and ArcGIS. The initial inventory is nearly complete and maintenance will be on-going. An in-house GIS application will eventually be developed to make the data that has been collected more easily accessible.
- 11. An accident mapping system was developed in the sheriff's department. This system utilizes GPS equipment in the squad cars, Spillman database software in the sheriff's department, and ArcGIS. Accident maps are produced quarterly and annually.

#### C. New Initiatives

## 1. Proposed Projects

All of our proposed projects for the next five years are related to our goals and objectives covered in Section II. A. as follows:

- Update our GIS parcel mapping web-site by the end of 2010. These updates will simplify our site and also enable it to link to our property tax records web-site which is now updated in realtime. This will require our parcel mapping to be available on-line in real-time also. Approximate cost = \$5,000.
- Create a GIS address point layer from the official address mapping that is maintained in our county zoning office. It is anticipated that this project will be completed sometime in 2011. Also improve the query capability of our e911 mapping system. (these projects will be county funded)
- We will be doing an April 2010 orthophoto flight through the Wisconsin Regional Orthophoto Consortium. The orthophoto will consist of 1 foot pixel resolution, color, digital imagery. Approximate cost = \$26,000.
- Remonument the Lake Michigan meander corners by 2015 or whenever sufficient funding becomes available. Approximate cost = \$50,000.
- Create an in-house GIS application for the county highway department's road sign inventory by 2012. Approximate cost = \$3,000.
- Create new political boundary layers in 2011 after 2010 census is completed. (will be county funded)
- Begin working with local units of government by the end of 2014 to incorporate their zoning data into our GIS and ultimately create a web-site that displays this data. (will be county funded)

• Do a LIDAR flight and create a 2 foot contour layer along with new FEMA floodplain maps that can be added to our web-site as soon as funding becomes available. We see this as our top priority, but we can only do this project if sufficient grant funding becomes available. The lack of good elevation data is the only major deficiency in our current GIS data set. Estimated total cost of this project is in excess of \$100,000.

## 2. Assistance Requested

Kewaunee County has already been working with Aerometric Inc. in Sheboygan, WI with regard to the technical aspects of doing a LIDAR, 2 foot contour, and updated FEMA floodplain map project. The only thing preventing us from moving forward with this project is the availability of sufficient grant funding. In order for Kewaunee County to complete a project of this magnitude in the next five years it will be necessary for DOA to modify its policy regarding base budget grant funding. Currently, we are not able to "bank" the grant funding that we receive every year in anticipation of doing a large project at some point in the future. After we complete our 2010 orthophoto flight we do not anticipate any "big ticket" projects until we do our next orthophoto flight in 2015. It would be very beneficial if we could "bank" our 2011, 2012, 2013, and 2014 grant funding to apply toward a combination LIDAR/orthophoto project in 2015.

#### 3. Problems Encountered

The only problem we've encountered has been our inability to obtain the funding necessary to do a LIDAR, 2 foot contour, and updated FEMA floodplain map project.

#### D. Custodial Responsibilities

Following are the Kewaunee County offices and their land records custodial responsibilities. The State statute authorizations are also noted. The (\*) indicates that the records are necessary for the operation of the office but not specifically mandated by State statutes. No additional custodial responsibilities are sought at this time; however, future requests for custodial responsibility will be considered and evaluated based upon the availability of resources.

## **REGISTER OF DEEDS**

Record/file deeds, mortgages, plat maps, certified survey maps and other related documents (§59.43).

File transportation project plats (§84.095).

Scan above mentioned records into our imaging system (§59.43).

Maintain computerized grantor/grantee index and tract index of real property (§59.43).

Provide on-site and internet access to land records.

#### **REAL PROPERTY LISTING**

Note: As of January 1, 2007 Real Property Listing, GIS, County Surveyor, and LIO functions have all been combined into one office – the Land Information Office.

Maintain description and ownership information of all parcels of property (§70.90).

Maintain private survey maps that are provided to this office (\*).

Maintain information of school and other special district codes (\*).

Maintain parcel maps (\*).

Maintain tax rates and special assessments (\*).

## COUNTY SURVEYOR (Contracted services provided by Rice Engineering, Inc.)

Maintain information on PLSS corners including tie sheets and section summary sheets (§59.74(2)).

Maintain information on the high accuracy network (HARN) densification in the County (\*).

#### **ZONING**

Maintain the rural address maps (§59.54 (4m)). Digital maps maintained by LIO. Maintain official road maps, land use maps, environmental maps and associated map data (\*). Digital maps maintained by LIO.

Maintain shoreland zoning maps (§59.692).

Maintain wetlands and floodplain maps (\*).

Maintain private sanitary system site plans (\*).

Maintain GIS layers for sanitary system locations, drain field locations, and sanitary system inspections.

## **LAND & WATER CONSERVATION**

Maintain soils maps and tables (\*).

Maintain GIS layers related to groundwater quality.

#### HIGHWAY DEPARTMENT

Maintain right-of-way plats and construction plans (\*).

Maintain data for on-going road sign inventory project.

### **TREASURER**

Maintain tax financial information for parcels (\*).

## **EMERGENCY GOVERNMENT**

Planning for the retention of all pertinent County records.

Maintain GIS lifeline layer

Maintain GIS mapping that shows fire department fill sites

#### SHERIFF'S DEPARTMENT

Maintain attribute data for on-going GIS accident mapping project.

Make necessary GIS data requests for maintenance of Positron e911 system

## E. Framework Data, System Implementation, and Statewide Standards

Kewaunee County has made and will continue to make every effort to conform to all statewide standards. The County has followed all State statutes and County ordinances.

## 1. Geographic Reference Frameworks

The County has completed all of the remonumentation of the Public Land Survey System (PLSS) for section and quarter section corners except for the Lake Michigan meander corners. The remonumentation included determinations of GPS coordinates for corners and also bearings and distances between corners. The work meets the requirements established in the State statutes.

The County plans to do the remonumentation and resurvey of the Lake Michigan meander corners by 2015. These coordinates will also be provided in Wisconsin State Plane Central Coordinates. The PLSS data will continue to be used as the reference system for parcel mapping.

In 2005 the County scanned all the existing survey monument dossier sheets and control survey summary diagrams. A web interface was developed to facilitate the retrieval, viewing and downloading of the scanned images. The web interface is available through the County's website. The County has since continued to scan and incorporate new and updated dossier sheets into the web interface as part of the remonumentation program.

## 2. Orthoimagery & Georeferenced Image Base Data

Countywide digital orthophotography with 18 inch pixel resolution acquired in 2000 through the Bay-Lake Regional Planning Commission consortium was also referenced to the Wisconsin State Plane Central Coordinate System. Color digital orthophotography with one-foot pixel resolution completed in 2005 and Pictometry oblique imagery captured in 2009 was also referenced to the Wisconsin State Plane Central Coordinate System. Kewaunee County has also acquired a county-wide DRG USGS topo image that is now referenced to Wisconsin State Plane Central coordinates. All of our georeferenced imagery is readily available to governmental units or others for a nominal reproduction and distribution cost.

### 3. Elevation Data Products and Topographic Base Data

This is the one area where Kewaunee County's GIS database is lacking. We have a DEM from our 2000 ortho flight and we have USGS elevation data in 10 foot contour intervals. However, the quality of both of these data sets is poor for the majority of the work that requires elevation data. Our need for good elevation data (a LIDAR flight, DTM, 2 foot contour layer, and new floodplain mapping) is highlighted throughout this plan. It is our hope that by 2015 we will have acquired this last major component for our GIS database.

## 4. Parcel Mapping

Countywide digital parcel mapping was completed in 1999. The mapping is referenced to the PLSS and based on the deeds and plats using coordinated geometry. The maps are topologically structured for GIS applications and are linked to the property tax listing database using ArcGIS software. The link is through the use of the County parcel I. D. numbering system.

The County LIO currently maintains and updates all of the digital parcel maps – taking over this function from Ruekert-Mielke Inc. in 2007.

## 5. Parcel Administration

A land information system that integrates property ownership and tax listing data with parcel polygons using the current County parcel identifier has been developed.

Metadata produced by Ruekert-Mielke Inc. has been developed according to national standards.

## 6. Street/Road Centerline and Addresses

The County has now completed a digital road layer that is geocoded with address ranges. An evaluation of such a system will take place in the Plan period. This information has been made available to the Sheriff's Department for use in 911 and Emergency Management Services. The property addresses are used for cross-referencing purposes on individual parcels. These new road layers have also been added to the county's GIS web application.

## 7. Hydrogrophy, Hydrology, and Wetlands Mapping

The county has currently acquired GIS layers for soils, major and minor watersheds, hydrography, wetlands, wetland restorations, animal feed lots, areas with manure spreading restrictions, and abandoned well locations. All natural resources-related layers are acquired and maintained by the Land & Water Conservation Department. The County has acquired the digital wetland maps from the Wisconsin Department of Natural Resources and floodplain boundaries from the Federal Emergency Management Agency (FEMA). These maps are a layer in the county's GIS web application

## 8. Soils Mapping and Land Cover Data

The original digital soils layer from the Natural Resources Conservation Services (NRCS) is available through the county's GIS web application along with several layers derived from the soils layer. In addition, Kewaunee County has the old WiscLand Land Use / Land Cover data.

## 9. Land Use Mapping

The County Zoning Department will continue to acquire or develop local or regional land use maps whenever appropriate. The County Zoning Department will work with regional, municipal, or private organizations in developing land use plans. BayLake RPC has developed a land use GIS layer for Kewaunee County.

## 10. Zoning Mapping

Limited zoning information is currently available online. The plan is to incorporate town and county zoning maps into the county's GIS along with new Smart Growth planning maps from the county and all other municipalities. The 100 year floodplain boundaries, cemetery locations, and environmental corridors have all been mapped and incorporated into the county's GIS.

## 11. Election and Administrative Boundary System

County and minor civil division boundaries are included in our cadastral geodatabase for parcel mapping. Legislative districts, school districts and census maps have been acquired and are used for redistricting, analysis and other uses. They are also available to the public as layers in the county's GIS web application. These layers include census blocks, supervisory districts, aldermanic districts, and voting wards.

### 12. Critical Infrastructure and Facility Management

The County has not currently mapped infrastructure or facility data. Every effort will be made to ensure that all future digital plans are consistent with existing maps and the County's GIS technology. Specifically, when plans are developed by outside consultants, the County would require digital versions that are compatible with the County GIS format and geodetic system.

## 13. Database Design and System Implementation

Kewaunee County utilizes several different databases for storing its land information data. There is an annotation geodatabase and a cadastral geodatabase that contain all of our parcel mapping data. All of our other GIS data is stored in ESRI shapefile format. Landowner, assessment, and tax data is stored within our GCS Software system on a sequel server. Microsoft Access databases are used for storing our road sign inventory, accident mapping, plat of survey, and tie sheet database attributes. CherryLAN is used as our document indexing and imaging software. All scanned documents in the Register of Deeds office are stored within this system. GIS licenses at this time include 6 ArcView 3.x licenses, 1 ArcGIS license, and 1 ArcEditor license. Our GIS consulting firm is utilizing ArcIMS and ArcGIS Server for the on-line GIS applications that they are hosting for us.

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#### F. Public Access

The public can access tax listing data, maps and recorded document index and images through the use of public terminals located in the various County offices. Internet access is also available at no cost for the property tax records and parcel mapping. Contracted subscription or escrow access is available to the recorded documents index and images.

The \$1 public access fee is currently being used to offset the cost of having Ruekert & Mielke, Inc. host our GIS web application. Per Sec. 59.72 (5)(b)3 of Wisconsin statutes the public access fee can also be used to cover expenses related to the housing of data. In the Register of Deeds office these expenses could include things such as security backups of real estate images as well as future software and hardware purchases that support the development and maintenance of improvements related to the electronic recording of documents.

There is no privacy policy established at this time. The County Land Information Council's approach is to share data at no cost for the data and only a nominal charge for reproduction and distribution.

## G. Integration and Cooperation

The County has a number of data sharing arrangements with local and state governmental agencies and local firms in the form of Memorandums of Understanding or informal arrangements. The County Land Information Council's approach is to share data at no cost for the data and only a nominal charge for copying.

The County Land Information Council will attempt to share data with communities, agencies, or firms whenever possible at a nominal cost for reproduction.

The County is interested in assisting local communities in setting up digital mapping systems so that their systems are compatible with the County system.

The County Land Information Council will continue to pursue opportunities to jointly acquire or develop land information. The 2010 orthophotography project provided the opportunity for local communities to get higher resolution photography at a lower cost.

## H. Communication, Education, Training and Facilitated Technical Assistance

Kewaunee County is a subscriber to the LIO Technical Assistance List Server.

All departments in the County that deal with land information are either represented on the County Land Information Council or invited to all of its meetings. This Council oversees the land information program at the County and coordinates land information projects.

The County Land Information Council is dedicated to technical training and has demonstrated its support through the scheduling of training for County staff employees. Land Information Officer education and training funds are used to offset the expenses of the WLIA Annual Conference and associated workshops for the LIO.

City, village, regional planning commission, and utilities representatives have been invited to meetings and to submit their land information needs.

#### I. Administrative Standards Not Associated with Foundational Elements

- 1. The county agrees to observe and follow the statutes relating to the Wisconsin Land Information Program and other relevant statutes.
- 2. The county agrees to permit the Wisconsin Land Information Board access to books, records and projects for inspection and audit including unannounced audits by the Board.
- 3. The county agrees to complete the Annual WLIP Survey.
- 4. The county agrees to update the plan every 5 years and in the interim if the plan should change.
- 5. Development and implementation of an acceptable Plan confers certain benefits on local government within a county, including continued eligibility for Program funding. The land information community will use a voluntary peer review process to assess Plan acceptability. Kewaunee County will participate in this peer review process.